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# Directorates unite to test shuttle leading edge

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*WRIGHT-PATTERSON AIR FORCE BASE, Ohio* — Scientists at the Air Vehicles Directorate recently helped the materials and Manufacturing Directorate by testing shuttle edge carbon-carbon repair concepts.

In this testing, 20 specimens representing seven repair concepts were subjected to temperatures from 2500 F to 3000 F for 900 seconds, simulating conditions experienced by the shuttle when re-entering the earth's atmosphere. Three of the seven concepts survived the testing. In these successful concepts, both the repair and its adhesion to the reinforced carbon-carbon material showed material stability and mechanical strength.

The first testing phase will continue over the next few weeks, as many additional samples are delivered to VA. Samples passing this first phase will undergo more development and testing. The repair concepts that survive this step will be tested during the next space shuttle mission. Tests will be performed in the shuttle's cargo bay to prove the feasibility of using the repair processes in space. To ensure their safe return from future space shuttle operations, astronauts must have the ability to make repairs to damaged carbon-carbon edges while still in space. @